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## **CLAIMS**

- 1. A method of determining a sought object contour in a digital microscope image, which comprises a plurality of image elements and reproduces a biological material, *characterized* by the steps of
- assigning edge values (91) to at least a first subset of the image elements in the image;
- assigning values of a first gradient vector component (92) whose values each comprise a first linear combination of edge values of some surrounding image elements to at least a second subset of the image elements in the image;
- assigning values of a second gradient vector component (92) whose values each comprise a second linear combination of edge values of some surrounding image elements to at least a third subset of the image elements in the image; and
  - calculating an estimate (94) of the sought object contour based upon values of the first and the second gradient vector components.

2. A method as claimed in claim 1, wherein the first and the second linear combination each correspond to, in arbitrary order, a filtering in the image plane with a 3 by 3 filter and one differentiation in one direction each in the image plane.

- 3. A method as claimed in claim 2, wherein the 3 by 3 filter corresponds to a filtering with a weighted combination of a Laplace filter and a unity filter.
  - 4. A method as claimed in any of claims 1-3, wherein the first and the second linear combinations are calculated using Fourier transform.
  - 5. An arrangement for determining a sought object contour in a digital microscope image, which comprises a plurality of image elements and reproduces a biological material, characterized by
  - means for assigning edge values (84) to at least a first subset of the image elements in the image;
  - means for assigning values of a first gradient vector component (86) whose values each comprise a first linear combination of edge values of some surrounding image elements to at least a second subset of the image elements in the image;

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- means for calculating an estimate (87) of the sought object contour based upon values of the first and the second gradient vector components.
- 6. A digital storage medium comprising a computer program for determining a sought object contour in a digital microscope image, which comprises a plurality of image elements and reproduces a biological material, *characterized* by instructions corresponding to the steps of
- assigning edge values (91) to at least a first subset of the image elements in the image;
- assigning values of a first gradient vector component (92) whose values each comprise a first linear combination of edge values of some surrounding image elements to at least a second subset of the image elements in the image;
- assigning values of a second gradient vector component (92) whose values each comprise a second linear combination of edge values of some surrounding image elements to at least a third subset of the image elements in the image; and
- calculating an estimate (94) of the sought object contour based upon values of the first and the second gradient vector components.